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Washington, D.C. 20231

By: Nina L. McNeill
Nina L. McNeill

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

DAVID A. WHITE et al.

Application No.: Not yet assigned

Filed: Herewith

For: IMPROVED SYSTEM AND
METHOD FOR INTRALUMINAL
IMAGING

Examiner: Not yet assigned

Art Unit: Not yet assigned

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application, please enter the following amendments and remarks:

IN THE SPECIFICATION:

Please substitute the paragraph at p. 1, ll. 3 – 6 with the following:

CROSS-REFERENCES TO RELATED APPLICATIONS

This application claims the benefit of and priority from Provisional Application Serial No. 60/105,475, filed October 23, 1998, incorporated herein by reference for all purposes. This application is a divisional application of U.S. Appl. No. 09/425,495, the entire disclosure of which is herein incorporated by reference for all purposes.

IN THE CLAIMS:

Please cancel Claims 1 – 10 and 14 – 17 without prejudice, amend Claim 12, and add Claims 18 – 38 so that the pending claims read as follows:

11. (Unchanged) An improved catheter system of the type including (a) a tubular catheter body having a proximal tubular portion, a distal tubular portion, and a lumen therethrough, and (b) a drive cable rotatably received in the lumen, wherein the improvement comprises an intermediate tubular portion formed on the tubular catheter body of a transitional material between the proximal tubular portion and the distal tubular portion, the transitional material being of a higher flexural modulus than the distal tubular portion and of a lower flexural modulus than the proximal tubular portion.

12. (Amended) The improved catheter system of claim 11, wherein the proximal tubular portion comprises a material taken from the group consisting of natural polymers, synthetic polymers, and plastic materials.

13. (Unchanged) The improved catheter system of claim 11, wherein the intermediate tubular portion comprises a material taken from the group consisting of nylons, polyester, polyimides, polyolefins, and blends of such materials.

18. (New) The improved catheter system of claim 11, wherein the proximal tubular portion comprises a material taken from the group consisting of silicone rubber, natural rubber, polyvinylchloride, polyurethanes, polyesters, polyethylene, polytetrafluoroethylene (PTFE), and polyetheretherketone (PEEK).

19. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is adhesively bonded with the proximal tubular portion and with the distal tubular portion.

20. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is thermally bonded with the proximal tubular portion and with the distal tubular portion.

21. (New). The improved catheter system of claim 11, wherein the intermediate tubular portion has a length between 20 and 200 mm.

22. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion has a length between 40 and 100 mm.

23. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is connected with the distal tubular portion at a point between about 100 and 400 mm from a distal end of the tubular catheter body.

24. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is connected with the distal tubular portion at a point approximately 150 mm from a distal end of the tubular catheter body.

25. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion has a flexural modulus between 50 and 220 kpsi.

26. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion has a flexural modulus between 150 and 190 kpsi.

27. (New) A catheter system comprising:

a tubular catheter body having a proximal tubular portion, an intermediate tubular portion, a distal tubular portion, and a lumen therethrough, wherein the intermediate tubular portion is formed on the tubular catheter body of a transitional material between the proximal tubular portion and the distal tubular portion, the transitional material being of a higher flexural modulus than the distal tubular portion and of a lower flexural modulus than the proximal tubular portion; and

a drive cable rotatably received in the lumen.

28. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a flexural modulus between 50 and 220 kpsi.

29. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a flexural modulus between 150 and 190 kpsi.

30. (New) The catheter system of claim 27, wherein the proximal tubular portion comprises a material taken from the group consisting of natural polymers, synthetic polymers, and plastic materials.

31. (New) The catheter system of claim 27, wherein the proximal tubular portion comprises a material taken from the group consisting of silicone rubber, natural rubber, polyvinylchloride, polyurethanes, polyesters, polyethylene, polytetrafluoroethylene (PTFE), and polyetheretherketone (PEEK).

32. (New) The catheter system of claim 27, wherein the intermediate tubular portion comprises a material taken from the group consisting of nylons, polyester, polyimides, polyolefins, and blends of such materials.

33. (New) The catheter system of claim 27, wherein the intermediate tubular portion is adhesively bonded with the proximal tubular portion and with the distal tubular portion.

34. (New) The catheter system of claim 27, wherein the intermediate tubular portion is thermally bonded with the proximal tubular portion and with the distal tubular portion.

35. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a length between 20 and 200 mm.

36. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a length between 40 and 100 mm.

37. (New) The catheter system of claim 27, wherein the intermediate tubular portion is connected with the distal tubular portion at a point between about 100 and 400 mm from a distal end of the tubular catheter body.

38. (New) The catheter system of claim 27, wherein the intermediate tubular portion is connected with the distal tubular portion at a point approximately 150 mm from a distal end of the tubular catheter body.

REMARKS

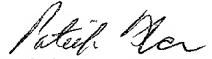
This application is a divisional of U.S. Appl. No. 09/425,495 ("the parent application"). In the Office Action dated March 27, 2001 (paper no. 6) for the parent application, the Examiner required election of one of seven identified species. In this divisional application, Applicant elects to prosecute Species VII, directed to Fig. 10. Accordingly, the Cross-Reference to Related Applications has been amended to refer to the parent application, Claims 1 – 10 and 14 – 17 have been canceled without prejudice, Claim 12 has been amended, and Claims 18 – 38 have been added to recite certain features more particularly. No new matter is added by the amendment, with support for all limitations of all pending claims being disclosed in Fig. 10 and related text at p. 15, l. 29 – p. 16, l. 25 of the specification. A copy of the amended Cross-Reference to Related Applications and all pending claims is set forth in the attached Appendix, where added material is denoted by underlining and deleted material is set forth in square brackets.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 303-571-4000.

Respectfully submitted,


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APPENDIX

1. Specification

The amendment to the paragraph setting forth cross-references to related applications is reproduced below with added material shown by underlining:

CROSS-REFERENCES TO RELATED APPLICATIONS

This application claims the benefit of and priority from Provisional Application Serial No. 60/105,475, filed October 23, 1998, incorporated herein by reference for all purposes. This application is a divisional application of U.S. Appl. No. 09/425,495, the entire disclosure of which is herein incorporated by reference for all purposes.

2. Claims

Claims pending after the foregoing amendment are set forth below, with added material underlined and deleted text set forth in square brackets.

Claims 1 – 10 have been canceled.

11. (Unchanged) An improved catheter system of the type including (a) a tubular catheter body having a proximal tubular portion, a distal tubular portion, and a lumen therethrough, and (b) a drive cable rotatably received in the lumen, wherein the improvement comprises an intermediate tubular portion formed on the tubular catheter body of a transitional material between the proximal tubular portion and the distal tubular portion, the transitional material being of a higher flexural modulus than the distal tubular portion and of a lower flexural modulus than the proximal tubular portion.

12. (Amended) The improved catheter system of claim 11, wherein the proximal tubular portion comprises a material taken from the group consisting of [a] natural polymers, [or] synthetic polymers, and [or] plastic materials[s], such as **silicone rubber, natural rubber, polyvinylchloride, polyurethanes, polyesters, polyethylene, polytetrafluoroethylene (PTFE), and polyetheretherketone (PEEK)**].

13. (Unchanged) The improved catheter system of claim 11, wherein the intermediate tubular portion comprises a material taken from the group consisting of nylons, polyester, polyimides, polyolefins, and blends of such materials.

Claims 14 – 17 have been canceled.

Claims 18 – 38 have been added:

-- 18. (New) The improved catheter system of claim 11, wherein the proximal tubular portion comprises a material taken from the group consisting of silicone rubber, natural rubber, polyvinylchloride, polyurethanes, polyesters, polyethylene, polytetrafluoroethylene (PTFE), and polyetheretherketone (PEEK).

19. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is adhesively bonded with the proximal tubular portion and with the distal tubular portion.

20. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is thermally bonded with the proximal tubular portion and with the distal tubular portion.

21. (New). The improved catheter system of claim 11, wherein the intermediate tubular portion has a length between 20 and 200 mm.

22. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion has a length between 40 and 100 mm.

23. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is connected with the distal tubular portion at a point between about 100 and 400 mm from a distal end of the tubular catheter body.

24. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion is connected with the distal tubular portion at a point approximately 150 mm from a distal end of the tubular catheter body.

25. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion has a flexural modulus between 50 and 220 kpsi.

26. (New) The improved catheter system of claim 11, wherein the intermediate tubular portion has a flexural modulus between 150 and 190 kpsi.

27. (New) A catheter system comprising:

a tubular catheter body having a proximal tubular portion, an intermediate tubular portion, a distal tubular portion, and a lumen therethrough, wherein the intermediate tubular portion is formed on the tubular catheter body of a transitional material between the proximal tubular portion and the distal tubular portion, the transitional material being of a higher flexural modulus than the distal tubular portion and of a lower flexural modulus than the proximal tubular portion; and

a drive cable rotatably received in the lumen.

28. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a flexural modulus between 50 and 220 kpsi.

29. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a flexural modulus between 150 and 190 kpsi.

30. (New) The catheter system of claim 27, wherein the proximal tubular portion comprises a material taken from the group consisting of natural polymers, synthetic polymers, and plastic materials.

31. (New) The catheter system of claim 27, wherein the proximal tubular portion comprises a material taken from the group consisting of silicone rubber, natural rubber, polyvinylchloride, polyurethanes, polyesters, polyethylene, polytetrafluoroethylene (PTFE), and polyetheretherketone (PEEK).

32. (New) The catheter system of claim 27, wherein the intermediate tubular portion comprises a material taken from the group consisting of nylons, polyester, polyimides, polyolefins, and blends of such materials.

33. (New) The catheter system of claim 27, wherein the intermediate tubular portion is adhesively bonded with the proximal tubular portion and with the distal tubular portion.

34. (New) The catheter system of claim 27, wherein the intermediate tubular portion is thermally bonded with the proximal tubular portion and with the distal tubular portion.

35. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a length between 20 and 200 mm.

36. (New) The catheter system of claim 27, wherein the intermediate tubular portion has a length between 40 and 100 mm.

37. (New) The catheter system of claim 27, wherein the intermediate tubular portion is connected with the distal tubular portion at a point between about 100 and 400 mm from a distal end of the tubular catheter body.

38. (New) The catheter system of claim 27, wherein the intermediate tubular portion is connected with the distal tubular portion at a point approximately 150 mm from a distal end of the tubular catheter body. --